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ABSTRACT

A developmental education evaluation model designed to be used at a multi-unit urban community college is described. The purpose of the design was to determine the cost effectiveness/worth of programs in order to initiate self-improvement. A needs assessment was conducted by interviewing and taping the responses of students, faculty, staff, and administrators at the institution. Six components identified to be evaluated in the college's developmental education program included: (1) direct instructional program: (2) individualized self-paced learning program: (3) instructional support services: (4) instructional delivery systems: (5) cost of instructional and support services: and (6) such components as facilities, personnel attitude, qualifications of instructors, logistics, etc. For each of the components, the evaluation model took into consideration the following factors: criteria: properties: methodology: instrumentation: sample: variables: references: resources needed: estimated cost: and planned sequence of activities. The importance of the model is that the evaluation provides documented data of the quality needed to make educated decisions having major impact on students. (Author/RL)

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Developmental Education Evaluation Model

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A. Developmental Education at Cuyahoga Community College

When Cuyahoga Community College opened its doors in downtown Cleveland in the fall of 1963 as the first public community college in Ohio, approximately half of the students registering for English selected a remedial course. Today, the College has grown from its initial registration of 3,000 students housed in a reconditioned nineteenth-century public school building to an annual registration of approximately 25,985 students at three modern campuses. The oldest campus, Metropolitan, is located in the heart of Cleveland and thus draws its enrollment primarily from the "inner" city. The second, Western, is located on the suburban west side of Cuyahoga County (in which Cleveland is located), with its enrollment coming primarily from first-or second-generation American families who have moved from the inner city. The third, Eastern, was opened in 1973 and is also suburban. The diverse nature of the students served becomes apparent when the demographic characteristics of the students and the nature of educational programs unique to each campus are reviewed. Such differences have resulted in major idiosyncrasies in the nature of Developmental Education programs at the three campuses. These programs are significantly different in their accessibility, delivery, and content. But as in 1963, the need today is nonetheless apparent. Sixty-nine percent of last year's graduating students took compensatory English or mathematics courses.

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Access to developmental courses on the Metrcpolitan Campus is the most structured. Full and part-time students are assessed in reading, writing, and computation then placed in English and mathematics courses according to the assessment results. At the Western and Eastern Campuses, placement is student-determined or faculty-recommended. At Western, however, many English and mathematics faculty assess students during the first week of class.

Delivery of instruction also differs significantly. The Metropolitan Campus English and mathematics faculty serve as master teachers to instructional assistants and tutors, who provide individualized instruction to groups of five or six students. At Western, instructional faculty use the traditional classroom mode to which is added tutoring as a separate component. At the Eastern Campus, the entire Developmental Education Program is described as "integrated." There is even greater inconsistency in the content of courses offered in the Developmental Education Programs.

Attempt at formation of a comprehensive, coordinated College-wide Developmental Education Program was initiated by developing a mutually agreed upon statement of Developmental Education Program goals and objectives by representatives from the three campuses, resulting in a formal policy which was approved by the College's Board of Trustees. Included was the commitment to biennually evaluate the Developmental Education Program.

B. The Need for Evaluation: An Administrative Perspective

From an administrative point of view, evaluation of Developmental Education programs, generally in the State of Ohio, and, particularly in Cuyahoga County, has become especially important for several reasons, all of which are related to the need to provide greater accountability to a variety of the College's constituencies.

- First, there is the ongoing local and national argument as to whether Developmental Education programs/services even ought to be offered by post-secondary educational institutions.

- Second, Developmental Education service (not including credit courses, but including such supplementary aids as tutoring, orienta- tion, non-credit mini-courses, and counseling) is a separate line item in the budget considered by the state legislature and even- tually approved--or, potentially disapproved,--by the governor. As a separate line item, Developmental Education services therefore, are exceptionally vulnerable to excision from the state's higher education budget.

- Third, Cuyahoga Community College receives funding from three primary sources: (a) the State of Ohio on an FTE basis for credit courses (plus the special line item funding referenced above), (b) student tuition, and (c) local tax levies amounting to 1.6 mills. Thus, the College must not only join with other Ohio post-secondary

educational institutions to continue to lobby for state funding, but must also, on a regular basis, convince county taxpayers that the funds they provide for operating expenses are used appropriately.

In order to continue to convince our constituencies of the need to maintain their financial support of the College, including major funding for Developmental Education credit courses and support services, we must be able to provide more and better evidence that the funds are being used effectively. That is, we must be able to demonstrate that student ability in computation, writing, and reading is improving at least proportionately to the costs incurred in providing the necessary educational experiences and services offered and that we, the only two-year, post-secondary institution of higher education in our county of 1,400,000 citizens, are an appropriate educational institution to provide those experiences and services.

C. Establishing a Climate for Evaluation

Needs assessment is a frequently-used phrase in discussions about program evaluation. Its purpose is to identify or establish the nature of the discrepancy between an acceptable and an existing state of affairs. It can either be measured objectively or estimated subjectively. The word establish is key here because for evaluation to serve the purpose of improving the program as opposed to judging it, it is crucial that faculty, staff, and administrators involved in the delivery of Developmental Education services be convinced that:

(a) discrepancies between goals and practices do exist in their program;

(b) improvement is possible and will indeed be of value to program outcomes.

Since evaluation as practiced traditionally by educators in the classroom had, as its primary purposes, to "examine and judge concerning worth," it is clear why faculty and administrators with teaching experience view evaluation similarly. Staff members assume the position of defending and protecting THEIR program. Discrepancies between goals and practices are not recognized, and even if they are identified, they may not be acknowledged. As a result, when improvements are suggested, they are frequently tagged as unfeasible. Essentially, the reason is that evaluation is seen as frightening; moreover, the less one knows about the method, content, and criteria used for the evaluation, the greater the fear. Faculty, staff, and administrators share the same anxieties as students when faced with evaluation.

Turning this perceived negative characteristic of evaluation into an asset is a major challenge. Needs assessment is a mechanism through which program staff can be involved, but for the experience to be viewed positively, subjective measurement is perhaps a preferable format to use. Our approach was to avoid use of the usual questionnaire format. We interviewed, taped, and subsequently exhibited to the College-at-large the responses of students, faculty, staff, and administrators to the following four questions:

1. Who is the Developmental Education student?
2. What are the Developmental Education services offered in the College?
3. Why assess students?
4. Why and how should the program be evaluated?

In this manner, not only were needs identified, but they were collected in a manner which was neither threatening nor punitive. As a result, opinions expressed by faculty and staff were accepted as those of the experts by their peers and had far greater weight than would have had any quantity of measurable data analyzed objectively.

To involve faculty, staff, and administrators in the evaluation effort is an overly simplistic objective because involvement needs to be restricted to decision makers, i.e., people who can effect change. This, in turn, requires that the purpose of the evaluation be fully thought through. In our case, two groups of decision-makers were identified: (1) instructors (faculty, tutors, instructional assistants) who were responsible for instructional effectiveness, and (2) administrators who were primarily responsible for making certain that the delivery of Developmental Education Services occurred in a cost-effective manner.

Once the persons involved were identified, the first phase of activity was presentation of the Model of Evaluation to chief administrators (in our case, campus presidents and instructional deans) to provide them the opportunity to review, question, and suggest modifications. The result was

that campus leaders became our partners and felt comfortable when questions were raised on campus.

Having gained approval at the top administrative level, the second phase was to provide the same opportunity to faculty and staff on each campus, the emphasis being on providing the mechanism by which they would become knowledgeable about the purpose and the process of the evaluation.

So far, then, not only have needs been identified, but as a result of the opinions expressed in interviews, faculty and staff were able to identify themselves and each other as experts. The results, we feel, carried far greater weight than data obtained in a more restricted and conventional manner.

The discussion forums in which campus presidents, campus deans, Academic Unit Leaders (department heads), and individual faculty had an opportunity to understand the purpose of the evaluation, offer their input as to its design, participate in decisions concerning instrument selection as well as planning implementation were most helpful for getting the job done. The benefit of such extensive small-and large-group, as well as individual discussions was to acknowledge identities, reduce anxieties relative to turf, and recognize individual campus needs--all without denying the inevitability of the evaluation, or its relationship to District Office (College-wide) prerogatives given the North Central accreditation status of the institution as a multi-campus, but nonetheless a single entity.

D. Description of the Evaluation Model

It was the recognition that evaluation of Developmental Education programs has been described as well nigh impossible because of (a) the vast number of areas or components of which such programs are comprised; (b) the interactive effects of these components with each other; and (c) the difficulty of evaluating process, i.e., how services are delivered, that led in part to the deliberateness used in developing and implementing the model.

First, the components to be evaluated in the College's Developmental Education program include:

(a) THE DIRECT INSTRUCTIONAL PROGRAM - course areas such as Reading, Writing, Mathematics, etc.

(b) THE INDIVIDUALIZED SELF-PACED LEARNING PROGRAM. At CCC this means PLATO, Honeywell, Learning Labs, Audio-Visual Tutorial, and tutoring.

(c) THE INSTRUCTIONAL SUPPORT SERVICES such as Assessment, Counselors, and Advisors.

(d) INSTRUCTIONAL DELIVERY SYSTEMS, that is, the types of instructional methods used such as mechanical systems, competency based instruction, individual and group instruction, etc.

(e) COST OF INSTRUCTIONAL AND SUPPORT SERVICES including faculty, materials, support staff, etc. And then there are

(f) OTHERS - such as facilities, personnel attitude, qualifications of instructors, logistics and so forth.

We need to realize for the reasons mentioned earlier that simply adding the evaluation results of the components grossly understates the effect of such programs. But if we are unsure about how to look at interactions, or at process, such an approach is still more informative than no evaluation at all. The same would be true of evaluating only parts of a program, and doing so at different times. Essentially, formative evaluation does precisely this while simultaneously looking at how services are delivered.

For each of the components, the evaluation question considers a number of factors as it proceeds toward data collection that is representative, reasonable, and reflective of what we need to know. These considerations include:

(a) CRITERIA - What outcomes should be expected?

(b) PROPERTIES - What should be the content of an area?

(c) METHODOLOGY - What kind of tool or what is the most appropriate way of finding out about a component?

(d) INSTRUMENTATION - What specific tool should be used? Will it measure what I would like it to measure and will it do so from one person or group to another, and from one time to another? That is, will the tool be both valid and reliable for my purpose?

(e) SAMPLE - How many people should I collect information from if I want my efforts to yield a reasonable and sufficient amount of data?

(f) VARIABLES - What individual or group factors might influence the results of this evaluation and therefore deserve special attention?

(g) REFERENCES - Where will any information I might need to carry out this evaluation come from? Who can I turn to that might be doing things which relate to my question?

(h) RESOURCES NEEDED - What activities need to be accomplished and who will carry out those activities? What is available and where will others come from?

(i) ESTIMATED COST - What dollar amount will be needed for the data collection?

(j) PLANNED SEQUENCE OF ACTIVITIES - Good evaluation takes more than technical know-how. It requires attention to precision and details and coordination of activities. Let us select Reading from the direct instructional component of Developmental Education to illustrate the planning and designing of the evaluation process.

The CRITERIA or end result we would expect would be that students will be able to interpret what is written in the books used in college-level technical and general education courses.

The PROPERTIES of Reading would be a description of what should be taught in a particular reading course. For a Basic Reading course, the content might include such items as identifying main ideas, identifying supporting ideas, vocabulary, generalizing or abstracting from what is read, and so on. The properties would be specific and defined by the program in which it exists, defined in terms of course objectives which reflect student needs in reading.

The METHODOLOGY asks about the kind of procedure which would be appropriate for measuring the effectiveness of the Reading course. We could do pre-post tests, observe the instructor-student interaction, the amount of silent and group reading, etc.
--not valuing what we see, but looking at the results using different ways of operating. INSTRUMENTATION leads us to identifying a specific tool.

While it would be easy to use a standardized reading test, the question to ask in choosing the test is how well its objectives match the content of the reading course. The alternative is to construct a reading test that does the job we wish it to do. This could be done easily enough by members of the reading faculty who would take the objectives for the reading course and construct items which test these objectives. The instrument would need to be pilot-tested and analyzed for difficulty, validity, reliability--a task easily enough completed by the Research Department of your college, which should also be able to advise on questions of format, test length, and the like. Or it may be well worth expending the resources needed to bring in an expert to achieve this task. If the approach is done well, the question of suitability of the test for its purpose is less unclear.

The argument that choosing a standardized test is more appropriate simply because it makes the evaluation "relevant" to a standard is really not a valid one. The objective of a Developmental Education course is to prepare students for the regular or credit-bearing and transferable college-level course. The Developmental course objectives should be the same as the entering criteria for the beginning or freshman level college transfer course. The objectives

of that course should also meet the standards of the freshman English course at other colleges, particularly those colleges to which students are most likely to transfer. The need for inter-collegiate articulation to ensure this similarity is obviously important.

The SAMPLE to use involves practicality, thoroughness, and cost. Ideally, we would like to test the entire population of students taking the Basic Reading course over, say, a one-year period. We say a one-year period because you may have reason to think that Fall, Winter, and Spring Quarter students or classes differ significantly from one another If it is impractical to pre-and post-test all students, the crucial item to consider is whether all those variables which would influence the results are included in the sample--such variables as sex, and perhaps age. Since students in these courses should be placed there on better than subjective "sound advice" it is quite easy to pre-and post-test. The pre-test would be the Placement Test, and the post-test an alternative form of the same test--both based on objectives of the course.

Some of the variables which might deserve consideration would usually be ones which have been identified, based on sound reasoning or empirical findings, that might cause predictable differences in scores. For example, there are fairly consistent differences throughout elementary school between boys and girls in reading ability, regardless of the speculated-upon reasons for such difference. Though there is also evidence that by the time males and females graduate from high school and begin college the gap begins to close, you might wish to look at sex as a variable. The questions that should guide choice of

variables are (a) is there reason to think there might be a difference as a function of different positions of students on the variable, and (b) if so, might there be some implications for program planning? Or you may simply want to identify differences for the immediate purpose of contributing to the knowledge base about factors influencing the reading progress.

REFERENCES refer simply to, "Where can I get any information that will help me in carrying out this Project? Is there another related interest at my institution? Do I need a literature review before I begin?" Usually the answer is yes. References are essentially notes about how to be efficient by getting useful, relevant information.

TASKS/RESOURCES/COST can be combined. In a sequence ask (a) what needs to be done, (b) what kind of people and materials are needed for each activity, and, (c) how much will all this cost? This might be easier to do after laying out a PLAN of what has to be done. Identify the resources that are already available, the associated-in-kind or direct cost, and so forth. Include all costs --secretarial, computer test development, consultants, etc. Evaluations of this magnitude are fairly costly and time-consuming if they are to be worthwhile.

The PLAN is important because it allows you to establish realistic time frames for accomplishing sequenced and simultaneous activities. It will provide answers to such questions as when will a test be selected, when administered, when scored, when will coordination take place, and who will be responsible? The plan must be available to everyone involved.

Notice that a particularly critical aspect of the model is that of identifying criteria which would be used to compare goals and objectives for the Developmental Education Program with those activities actually taking place in order to make some judgments relative to discrepancies which exist so that needed recommendations for improvements can be made and implemented.

Recall once more that Cuyahoga Community College is a three-campus institution and that the need for uniformity in the form of a comprehensive, coordinated Developmental Education Program had been specifically identified. Although general goals and objectives have been identified Collegewide, the question of how to refine these in terms of specific and measurable objectives agreed upon Collegewide as well as obtaining Collegewide agreement on specific and measurable criteria has to be consciously addressed. Consensus is important on this point. Use of the Delphi Method in group discussions has been chosen as an appropriate mechanism by which to reach largely accepted decisions concerning program quality. Since the goals and objectives for Developmental Education had been identified when the policy referred to early in this paper was first written, the faculty groups will be asked to respond individually to a preliminary form of goals inventory constructed from the earlier work of representatives of the three campuses.

The faculty responses to the goals inventory will be edited, and the lists will be presented at a faculty workshop on each campus at which specific and measurable objectives will be developed. These then will become criteria for program evaluation. Since it is anticipated that there will not be total agreement among personnel from the three campuses, a workshop will be held for

instructional personnel of the campuses. A person who is not a member of the College's staff will work through the divergent measurable and specific criteria to obtain criteria accepted Collegewide.

We obviously feel quite strongly that evaluation of the program is best not left exclusively to an "outside agency" even if that agency is a College department. The involvement of instructional personnel within the Developmental Education Program will improve the extent to which findings are accepted.

With program goals, objectives, and criteria in hand, the identification of data sources and the selection or development of instruments becomes one of matching program objectives to related program activities, and program objectives to instruments. Note that so far we have not talked about strategies for conducting the evaluation--such as being sure that it is carried out by the people administering the program. It must be clear why such personnel participation will contribute to looking more realistically at what is being done and the extent to which such an approach makes the evaluation a learning experience. It also helps to understand the place of external evaluation and the role of the technical assistance available at the institution. We also do not have sufficient time here to discuss process evaluation or evaluation of delivery systems even though it is relevant to the outcomes. Efficiency often dictates looking at outcome and then at process or delivery systems underlying program components where outcome data are not altogether satisfactory.

As an aside, we would suggest that these efforts be undertaken in concert with external data requirements. In our case, the State of Ohio, through the Ohio Board of Regents, requires annually the reporting of specific data. Collection and use of these data are a part of our evaluation design.

E. Making the Outcome of the Evaluation Work

After the evaluation, what then? The effort of incorporating the instructional personnel and administrators in the design will result in not only a more meaningful, far stronger evaluation, but also one which would reflect realistically and accurately the discrepancies between goals and practices.

Results of the evaluation in hand, we then plan to utilize the professional expertise of instructional faculty to guide meaningful recommendations to improve the program. If we can make evaluation an opportunity to be proactive instead of reactive, then we feel that activities within the Developmental Education Program can be more closely marked by improvement of performance that is the result of training and practice.

Suffice to say in closing that judgments are constantly being made which result in change--judgments by students, peers, ourselves, administrators, the community, for example. The question is whether practitioners of Developmental Education programs are willing to lead the way in asking the questions and engaging in the level of reflection which enables them to contribute--in fact, guide--the quality of those judgments which are inevitable.